

Amendments to the Claims

This listing of claims will replace all prior versions and listings of the claims in this application:

Listing of the Claims:

Claims 1-11 (Cancelled).

12. (Currently Amended) The graft implant according to claim ~~11~~ 30 wherein the assembled implant is pretreated or treated after assembly to incorporate a biologically active material selected from the group consisting of a bone morphogenic protein (BMP), an antibiotic, a growth factor, a nucleic acid and a peptide.

Claim 13-29 (Cancelled).

30. (Previously presented) An assembled graft implant comprising two or more individual segments fastened together with at least one pin machined from cortical bone, wherein at least one segment is a demineralized segment of allograft bone and at least one segment is a mineralized segment of allograft cortical bone, each segment having a hole drilled therein for receiving and frictionally engaging said at least one pin.

31. (Original) The assembled graft implant of claim 30, wherein said at least one demineralized bone segment comprises a region of mineralized bone.

32. (Original) The assembled graft implant of claim 30, wherein said demineralized or mineralized segments are made from cortical bone, cancellous bone or both.

Claims 33-34 (Cancelled).

35. (Currently amended) The assembled graft implant of claim 33 61, wherein said pin is made from a material selected from the group consisting of stainless steel, titanium, cobalt chromium-molybdenum alloy, nylon, polycarbonate, polypropylene, polyacetal, polyethylene oxide and its copolymers, polyvinylpyrrolidone, polyacrylates, polyesters, polysulfone, polylactide, poly(L-lactide) (PLLA), poly(D,L-lactide) (PLA), poly(glycolide) (PGA), poly(L-lactide-co-D,L-Lactide) (PLLA/PLA), poly(L-lactide-co-glycolide) (PLA/PGA), ~~poly(glycolide-co-trimethylene carbonate)~~ poly(glycolide-co-trimethylene carbonate) (PGA/PTMC), polydioxanone (PDS), polycaprolactone (PCL), polyhydroxybutyrate (PHBT), poly(phosphazenes), poly(D,L-lactide-co-caprolactone) (PLA/PCL), poly(glycolide-co-caprolactone) (PGA/PCL), poly(phosphate ester), polyanhydrides, polyvinyl alcohol, hydrophilic polyurethanes, and a combination of bioabsorbable polymers.

Claims 36-38 (Cancelled).

39. (Currently amended) The assembled graft implant of claim ~~44~~ 61 further comprising at least one segment comprised of demineralized bone.

Claims 40-60 (Cancelled).

61. (Currently amended) An assembled implantable bone graft suitable for use in humans comprising a first machined segment of allograft bone pinned with at least one pin to a second machined segment of allograft bone, and a ~~flexible tissue~~ soft tissue affixed between said first segment and said second segment.

Claims 62 -63 (Cancelled).

64. (Previously presented) The bone graft of claim 61, wherein said first machined segment and said second machined segment have respective through holes that are aligned for receiving said at least one pin.

Claims 65-67 (Cancelled).

68. (Currently amended) The graft implant of claim ~~67~~ 61 wherein said at least one pin is machined from allograft cortical bone.

69. (Currently amended) The graft implant of claim ~~67~~ 61 wherein the assembled implant is pre-treated or treated after assembly to incorporate a biologically active material selected from the group consisting of a bone morphogenic protein (BMP), an antibiotic, a growth factor, a nucleic acid and a peptide.

Claim 70 (Cancelled).

71. (Currently amended) The graft implant of claim ~~68~~ 61 composed of two segments of cortical bone having cortical bone pins inserted in each of said segments.

72. (Currently amended) The implant of claim ~~67~~ 61, having a superior vertebra engaging surface and an inferior vertebrae engaging surface, said surfaces having ridges or teeth machined therein to assist in retention of the implant when placed between the vertebrae.

Claim 73 (Cancelled).

74. (Currently amended) The assembled implant of claim ~~67~~ 61, wherein the implant further comprises different segments of cortical bone, cancellous bone, demineralized cortical bone, demineralized cancellous bone, synthetic material, or combinations thereof.

75. (Original) The implant of claim 71 wherein insertion of reinforcing pins provides an implant with multiple load-bearing pillars.

76. (Original) The implant of claim 75 wherein said pins protrude from the surface of the implant to engage with inferior, superior or both surfaces of bone between which the implant is inserted.

77. (Currently amended) The implant of claim ~~67~~ 61 which is sized for implantation between adjacent spinal vertebrae.

78. (Currently amended) The implant according to claim ~~67~~ 61 further comprising a cancellous portion of bone implant that has been compression molded, and then affixed to other portions of cortical bone.

Claim 79 (Cancelled).

80. (Currently amended) The bone implant of claim ~~79~~ 61, wherein at least one of said two or more bone segments is a mixed composition segment.

Claims 81-101 (Cancelled).

102. (New) The bone graft of claim 61, wherein said soft tissue comprises ligamentous tissue.

103. (New) The bone graft of claim 61, wherein said soft tissue comprises tendon, ligament, skin, or collagen sheets.

104. (New) The bone graft of claim 61, wherein said soft tissue comprises tendon.

105. (New) The bone graft of claim 61, wherein said soft tissue comprises ligament.

106. (New) The bone graft of claim 61, wherein said soft tissue comprises dermis.

107. (New) The assembled graft implant of claim 30, wherein said demineralized segment is made from cancellous bone.

108. (New) The assembled graft implant of claim 107, wherein said mineralized segment is made from cortical bone.

109. (New) The assembled graft implant of claim 30, wherein the implant comprises two pins.

110. (New) The bone graft of claim 61, wherein the implant comprises two pins.

111. (New) The assembled graft implant of claim 30, wherein at least one of segments is rectangular.

112. (New) The assembled graft implant of claim 30, wherein said two or more individual segments are rectangular.

113. (New) The bone graft of claim 61, wherein at least one of said machined segments is partially cylindrical.

114. (New) The bone graft of claim 61, wherein said machined segments are partially cylindrical.